# STRUCTURE 148

This structure is a reinforced concrete, gated spillway with discharge controlled by cable operated, vertical lift gates. Operation of the gates is automatically controlled so that the gate operating system opens or closes the gates in accordance with the operational criteria. The structure is located on Canal 1 about 1800 feet west of U.S. Highway 1.

## PURPOSE

This structure maintains optimum upstream water control stage of 5.0 feet in Canal 1; it passes the design flood (40% of the Standard Project Flood) without exceeding the upstream flood design stage, and restricts downstream flood stages and channel velocities to non-damaging levels.

## OPERATING CRITERIA

This structure is operated under automatic control as follows:

When the headwater elevation rises to 5.2 feet, the gates begin to open;

When the headwater elevation rises or falls to elevation 4.5, the gates become stationary;

When the headwater elevation falls to 3.7, the gates begin to close.

## FLOOD DISCHARGE CHARACTERISTICS

| | Design* |
|---|---|
| Discharge Rate | 1500 cfs |
| | 40 % SPF |
| Headwater Elevation | 3.9 feet |
| Tailwater Elevation | 3.7 feet |
| Type Discharge | uncontrolled submerged |

*Design flow conditions given in Detail Design Memorandum. No discharge curves for this flow condition available.

## DESCRIPTION OF STRUCTURE

Type reinforced concrete, gated spillway

Weir Crest

Net Length 40.0 feet

Elevation -7.0 feet

Service Bridge Elevation 9.0 feet

Water Level which will by-pass structure 9.0 feet

Gates

Number 2

Size 12.0 ft. high by 20.8 ft wide

Type vertical slide gates

Bottom elevation of gates, full open 4.0 feet Normal

7.0 feet Maximum

Top elevation of gates, full closed 5.0 feet

Control On-site automatic and remote computer control

Lifting Mechanism

Normal power source commercial electricity

Emergency power source L.P. gas engine driven generator

Type Hoist direct drive motor, gear connected to cables

Date of Transfer: December 14, 1965

**ACCESS:** from 213th Street, west of U.S. Highway #1

**HYDRAULIC AND HYDROLOGIC MEASUREMENTS**

Water Level Remote digital headwater and tailwater recorders

Gate Position Recorder Remote digital recorder on all gates

Other _____

**DEWATERING FACILITIES**

Storage needles at Homestead Field Station, beams at West Palm Beach Field Station

Type steel needle beam and aluminum needles

Size and Number (per bay)_____

Upstream and Downstream

Beam 27WF145, 22'-9" long

Needles 4 each, 5' wide